

Date: January 11, 2022
From: Ray Jones and Shoji Takahashi
To: Transportation Advisory Committee (TAC)
Subject: Request for Crosswalk Across Summer St at Newland Rd for Peirce Elementary.

Background. On September 28, 2021, the Select Board referred a request from residents on Sunset Road near Peirce Elementary School for a crosswalk across Summer St at Newland Rd. The residents have two young children attending Peirce Elementary School.

At the TAC Meeting of October 13, 2021, Laura Swan (TAC Chair) commented that she observed many adults and children crossing Summer St at Newland Rd during an afternoon dismissal at Peirce School. She added that there was no traffic supervisor on Summer St to discuss pedestrian crossing on this street.

A hypothetical crosswalk at Newland Rd would be less than 200' from the traffic signal at Park Ave Ext, and would not meet the TAC Marked Crosswalk Guidelines (January 8, 2019). A crosswalk at Sunset Rd might be useful depending on pedestrian destinations and how they use the roadway.



Existing Conditions. Summer St (Route 2A) near Peirce School is a two-lane road with a double-yellow center line and striped shoulders. The speed limit is 25 mph, and there are sidewalks on both sides of the road. The Summer St roadway adjacent to school grounds (between Newland Rd and Park Ave Ext) is not marked as a designated school zone. The school grounds in this location are separated from the sidewalk with a chain-link fence atop a shoulder-high retaining wall.

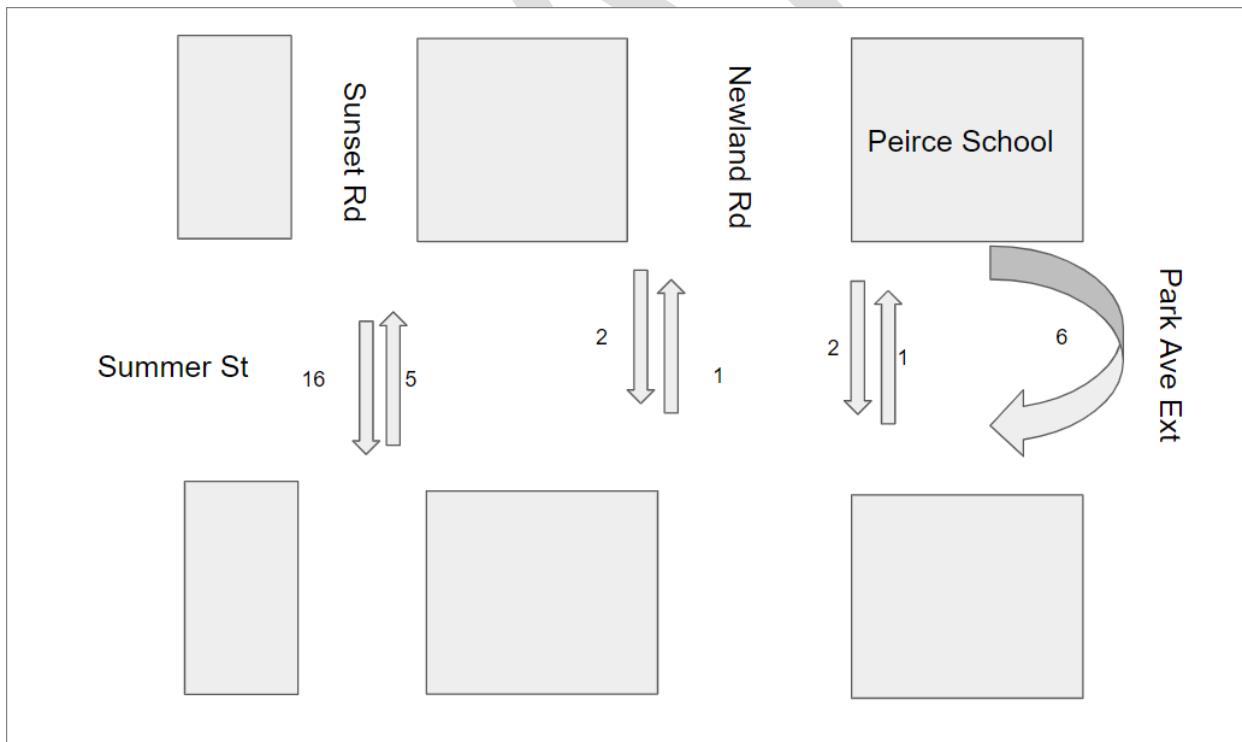
There are no stop signs and no marked crosswalks across Summer St on the approximately quarter-mile stretch between traffic signals at Park Ave Ext to the west and Forest St¹ to the east. (There are marked crosswalks at the signalized intersections.)

Summer St is straight without visual obstructions from before Park Ave Ext on the west to about Lennon Rd on the east where it begins to curve rightward. Eastbound drivers can see the Sunset Rd intersection from a distance of more than 400'. Westbound drivers can see the Sunset Rd intersection from a distance of more than 350'.

Observed Pedestrian Movements: Peirce Dismissal. We observed Peirce School dismissal on Wednesday, November 3, 2021, from 2:30 – 2:45pm. The weather was clear and sunny with temperatures in the high-40s F. Pedestrians crossing Summer St included students, guardians, dog walkers, and people on bicycles. Students were observed alone, with other students, and with adults.

Pedestrians crossed Summer St along the corridor between Newland Rd and Sunset Rd, including midblock crossings. (Many pedestrians crossed Summer St at the signalized intersection at Park Ave Ext. We did not record those moving away from the school to the north or west.)

During the 15-min observation period, we counted 21 pedestrian crossings across Summer St near the Sunset Rd intersection; and 6 pedestrian crossings at Newland Rd. Six pedestrians crossed at the Park Ave Ext crosswalk and then walked east along Summer St.

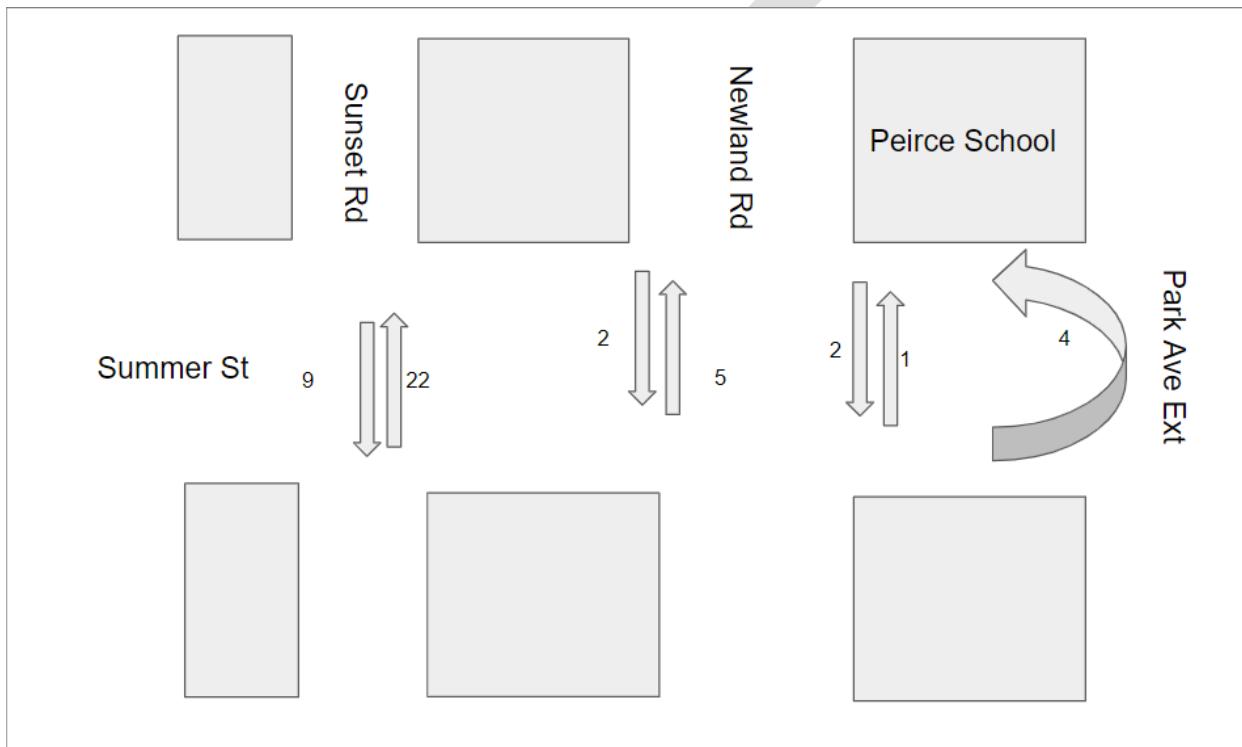


¹ Forest St intersects Summer St in two different locations. The Forest St in the Google Maps image is not signalized and does not have a marked crosswalk across Summer St. The signalized intersection is approximately 400' south.

Observed Pedestrian Movements: Peirce Arrival. We observed Peirce School arrival on Friday, November 5, 2021, from 7:45 – 8:20am. The weather was clear and sunny with temperatures in the mid-30s F.

The pedestrian composition was similar to Dismissal described above. Pedestrians crossed Summer St along the corridor between Newland Rd and Sunset Rd, including midblock crossings. (Many pedestrians crossed Summer St at the signalized intersection at Park Ave Ext. We did not record those arriving to the school from the north or west.)

During the 35-min observation period, we counted 31 pedestrian crossings across Summer St near the Sunset Rd intersection; and 10 pedestrian crossings at Newland Rd. Four pedestrians walked west along Summer St and crossed at the Park Ave Ext crosswalk.



Analysis & Recommendations. We recommend pavement-marked crosswalk across Summer St at the westside of Sunset Rd, which is based on the TAC Crosswalk Guidelines as follows:

The Guidelines state: “An uncontrolled crosswalk should not be placed within 200’ of a crosswalk that is controlled by a traffic signal.”

The residents writing to the Select Board requested a crosswalk at Summer St and Newland Rd, which is just less than 200’ from the signalized intersection of Park Ave Ext. As an alternative, we considered a marked crosswalk at Sunset Rd, which is ~200’ east of Newland Rd.

The Guidelines state: “A higher priority should be given to locations having a minimum of 20 pedestrian crossing per peak hour (or 15 elderly and/or children).”

We observed significant pedestrian movement across Summer St near Sunset Rd during Peirce Elementary School Arrival and Dismissal of more than 20 pedestrian crossing per peak hour. During our observations, more pedestrians crossed Summer St near Sunset Rd than Newland Rd.

The Guidelines state: "Visibility: the pedestrian in the crosswalk needs to be visible from far enough away so that a driver has time to react and stop. For vehicle speeds of 20, 25, 30 and 35 mph, the minimum recommended sight distances are 115, 155, 200 and 250 feet, respectively (MassHighway (now MassDOT) 2006). **The 85th percentile speed or posted speed, whichever is higher, should be used for determining sight distance.** [emphasis in original]"

The speed limit at this location is the Town-wide 25 mph with the minimum recommended stopping sight distance of 155'. On the conservative side, if the 85th percentile speed at this location is 35 mph, the minimum recommended sight distance is 250'. Westbound drivers can see the Sunset Rd intersection at Forest St, which is a distance of more than 350'. Eastbound drivers can see the Sunset Rd intersection at a distance of more than 400'.



1 Summer St looking west from Forest St.



2 View magnified with purple circle showing the Sunset Rd intersection. The white picket fence is 529 Summer St, on the eastside of Sunset Rd; the brown fence and red house is on the westside of Sunset Rd.

In conjunction with crosswalk markings at Sunset Rd, the Town also can consider the following:

1. Crosswalk signs and advance warning signs in both directions.
2. Consider a Designated School Zone with 20-mph speed limit when school is in session.
3. Add a Traffic Supervisor to assist in crossing Summer St at Sunset Rd.
4. Add no parking markings within 20' before the crosswalk per the Guidelines. However, automobiles generally do not park on the shoulder of this stretch of Summer St.